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REMARKS

Minor corrections have been made to the specification. Claims 3, and 8-10 have been amended. Claim 13 has been added. Claims 1-13 remain pending. Reconsideration and reexamination of the application, as amended, are requested.

The Examiner requested that the specification be checked for minor errors. A few minor errors have been identified and corrected.

The Examiner objected to claims 4 and 10 as being exact copies of each other. The dependency of claim 10 has been amended from claim 1 to claim 7.

The Examiner rejected claims 8 and 9 under 35 USC 112, second paragraph, by indicating that there is insufficient antecedent basis for "transmission means" and "reciprocating means". The dependency of each of claims 8 and 9 has been amended from claim 1 to claim 7.

The Examiner rejected claims 1-12 under 35 USC 103(a) as being unpatentable over Ito et al. (US 6,470,770). Applicant respectfully requests the Examiner to reconsider this rejection. Applicant respectfully traverses.

It is Applicant's position that Ito teaches a particular engine layout which achieves certain parallel planes to make machining of the crankcase more efficient. Furthermore, the patentee realizes that this layout not only achieves machining efficiency, but also good engine balance is obtained and the width of the engine is reduced. It is, therefore, Applicant's position that Ito does not teach or point to or provide motivation for creating a layout in accordance with the claims of the present invention because of needing to find some new geometry for better balance or to reduce width. Thus, the citation of Ito in the present rejection is of only arbitrary relevance because of similarities in structure between Ito and the present disclosure, and there is no

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teaching in Ito leading to the structure claimed in the present disclosure except in hindsight.

Consider Ito more particularly. Motivation for the invention of Ito is found in column 2, lines 24-37, which reads as follows:

As a result, in actual machining, the crank case 200 is positioned on jigs so that the machining axis of a machining device (not shown) coincides with the cylinder axis C10, then machining of the crank chamber is carried out, thereafter the machining is stopped, and the crank case must be repositioned on jigs so that the machining axis (C12) for the fitting portion for the ratio detecting sensor 212 coincides with the machining axis of the machining device, before the fitting portion for the ratio detecting sensor is machined. Therefore, the machining process takes much time and labor, and enhancement of workability is requested. Accordingly, it is an object of the present invention to solve such problems.

Achievement of this object is discussed by Ito in column 8, lines 66 to column 9, line 30, as follows:

Next, the effects of the present embodiment will be described. Since the ratio change mechanism 120 is laid out so that the line segment L connecting the center O1 of the driving shaft 43 with the center O2 of the ball screw 64 is parallel to the mating plane P of the front case 10a and the cylinder block 13, the turning axis C1 of the swash plate holder 83 is orthogonal to the line segment L and can be made parallel to the cylinder axis C0. Therefore, the axis C2 of the detecting shaft 122 disposed coaxially with the turning axis C1 can also be made parallel to the cylinder axis C0 (FIG. 1).

As a result, the machining axes of the boss 114 and the through-hole 116 which are the objects of machining of the ratio detecting sensor fitting portion for fitting the detecting shaft 122 can be also made parallel to the cylinder axis C0. On the other hand, the cylinder axis C0 serves also as the machining axis for machining of the crank chamber 10c. Therefore, the machining axis for the ratio detecting sensor fitting portion and the machining axis for the crank chamber 10c are parallel to each other.

Accordingly, when carrying out machining after casting of the front case 10a and the like, the front case 10a is fitted to jigs by positioning it so that the cylinder axis C0 coincides with the machining axis of a machining apparatus, whereby machining thereafter of the ratio detecting sensor fitting portion can be carried out utilizing the same positioning, without repositioning which is required in the prior art. Thus, both portions to be machined can be machined with a single

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positioning, so that the time and labor of positioning for the machining can be reduced, and workability can be enhanced remarkably.

With the layout disclosed, Ito has achieved the object of his invention as first set out. In the present rejection, the Examiner suggests that the components of Ito could be rotated and that such rotation would be obvious. To the contrary, rotation of the ratio detecting sensor fitting portion from being parallel with the cylinder axis to being perpendicular with respect to it which would be the result after a rotation based on a hindsight viewing of Applicant's invention, would destroy the achievement of the object of Ito's invention. That is, Ito clearly does not provide motivation for the rotation suggested by the Examiner, and to the contrary, any rotation would result in Ito's invention disappearing or being destroyed. Applicant's claim 1 in the last paragraph reads:

wherein the speed change drive shaft is disposed at a position on an upper side of the transmission and in parallel to an axis of the transmission, and a plane connecting an axis of the speed change drive shaft and the axis of the transmission does not intersect with an axis of the crankshaft, and intersects with the axis of the cylinder center axis of the cylinder block at a position on a lower side of the axis of the crankshaft while making an acute angle with the axis of the cylinder center axis of the cylinder block.

Likewise, Applicant's claim 7 at the last paragraph reads as follows:

wherein the reciprocating means is disposed at a position on an upper side of the transmission means and in parallel to an axis of the transmission means, and a plane connecting an axis of the reciprocating means and the axis of the transmission means does not intersect with an axis of the crankshaft, and intersects with the axis of the cylinder center axis of the cylinder block at a position on a lower side of the axis of the crankshaft while making an acute angle with the axis of the cylinder center axis of the cylinder block.

The acute angle which is defined in both claims 1 and 7 would destroy the parallel machining surfaces achieved in the Ito invention. As a consequence, it is Applicant's position that the Examiner's comments in the rejection are not supported by any consideration of Ito and that the rejection should be withdrawn.

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With respect to claims 2 and 8, it is pointed out that Ito does not disclose a speed change ratio sensor or sensor means disposed on a lateral side of the transmission or transmission means. With respect to claims 3 and 9, it is pointed out that Ito does not disclose a breather chamber on or in the vicinity of an extended axis of the speed change drive shaft or the reciprocating means. The acute angle, defined in claims 1 and 7 is contrary to the teaching of Ito. Furthermore, with respect to claims 5 and 11, there is clearly no teaching in Ito that such an acute angle would be about 10 degrees.

Claim 13 has been added. Basis is found on page 35, lines 4-11. There is no teaching in Ito with respect to an oil tank chamber which, when filled with oil, provides a balancing weight on opposite sides of the crankshaft with the transmission.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration and reexamination are requested. Allowance of claims 1-13 at an early date is solicited. Any questions regarding this communication can be directed to the undersigned attorney, Curtis B. Hamre, Reg. No. 29,165 at (612) 455-3802



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Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &
LARSON, P.C.
P.O. Box 2902-0902
Minneapolis, MN 55402-0902
(612) 455-3800

By:

A handwritten signature in dark ink, appearing to read "Curtis B. Hamre". The signature is written in a cursive, flowing style.

Curtis B. Hamre
Reg. No. 29,165
CBH/lad